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ABSTRACT

In this evaluation study, two groups of children who attended kindergarten either one-half day every day or full-day on alternate days were compared. An opinion survey was conducted to obtain the observations of parents, kindergarten teachers, and elementary principals in relation to the all-day alternate day schedule in 55 school districts. Data were collected on 96 kindergarten children during the last two weeks of the 1971-72 school year. Of these children, 48 had been attending the full-day alternate-day kindergartens and 48 had been attending the half-day daily kindergartens. The children ranged in age from 5 years 9 months to 7 years 9 months for the full-day group and 5 years 9 months to 6 years 9 months for the half-day group. No fewer than 8 and not more than 10 children were taken from each of 10 classrooms. Two examiners from the State Department of Education asked questions of a single child for about 25 minutes. A test of pre-academic skills was developed for this study, and the Caldwell Preschool Inventory was used. Results of the study showed that the two groups were similar on the measure of broad readiness experiences, and they were dissimilar on two of the pre-academic skill measures. Children who attended kindergarten daily had significantly higher scores on tests of ability to name numerals 1 to 10 and on knowledge of the sounds of letters of the alphabet. There were no significant differences on the Caldwell Preschool Inventory. On all measures, the children in the full-day alternate-Day programs had lower scores and greater group variability. An appendix provides survey forms and test forms. (DB)

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KINDERGARTEN EVALUATION STUDY:

FULL-DAY ALTERNATE DAY PROGRAMS

PS 006226

Minnesota Department of Education
July, 1972

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INTRODUCTION

The 1971 Minnesota State Legislature amended M.S. 124.17 Education; Definition of Pupil Units. Subdivision 1.

> "In an elementary school, for kindergarten and for handicapped prekindergarten pupils as defined in M.S. 120.03, and attending one-half day sessions throughout the school year or the equivalent thereof approved by the Commissioner of Education, one-half pupil unit and other elementary pupils, one unit."

Fifty-five public school districts in Minnesota elected to exercise the flexibility in amended M.S. 124.17, by operating their kindergarten program on a full-day alternate day basis for the 1971-72 school year. Most of these school districts indicated early in the 1971-72 school year that they changed to full-day alternate day programs because of the high cost of providing noon transportation for kindergarten children in half-day daily programs.

Considerable interest, discussion and some controversy by parents, teachers and administrators has centered around the advantages and disadvantages of half-day programs versus full-day alternate day programs. This discussion and controversy, and the absence of relevant research data in this area of early childhood education, prompted the elementary unit staff to undertake limited study and evaluation of full-day alternate kindergarten programs in the fifty-five school districts in Minnesota.

This evaluation study is divided into four sections:

Section A - An opinion survey of selected parents, kindergarten teachers and elementary principals relative to their observations of the full-day alternate day program in their school district.

Section B - A brief comparison of kindergarten group test scores in five school districts who operated half-day daily programs for 1970-71, and full-day alternate day programs for 1971-72.

Section C - A report of individual test data of students in school districts operating half-day daily programs and students in school districts operating full-day alternate day programs. This testing and related summary data was prepared by Ms. Corinna Moncada, Early Childhood Consultant, Minnesota Department of Education.

Section D - A brief summary of sections A, B, and C.

Gerald L. Kleve, Ed.D.
Director, Elementary Education

SECTION A - Opinion Survey (Parents, Teachers, Elementary Principals)

Observations of parents, kindergarten teachers and elementary principals provide a valuable contribution to this evaluation study of full-day alternate day kindergarten programs.

Parents of kindergarten children are in a strategic position to observe their children's reaction to participation in this type of scheduling by responding to survey questions concerning the physical, social, emotional and instructional needs of their children.

Kindergarten teachers are in direct contact with kindergarten children from five to seven hours each day the class meets in this type of scheduling. Their observations are extremely valuable and valid when discussing the advantages and disadvantages of this alternate day scheduling. They are aware of and sensitive to the physical, social, emotional and instructional needs of the children they work with each class session.

Elementary principals are in a position to observe student participation in this program, noting advantages and disadvantages; as well as interacting with kindergarten teachers and parents relative to their reactions to this type of kindergarten scheduling.

A summary of the survey results will be identified for each group surveyed: parents, kindergarten teachers and elementary principals. Survey forms used are identified in the appendix. A stamped, self-addressed envelope was included with each survey form to facilitate a convenient response for survey participants.

1. Parent Survey -

A 10% sampling of parents with children in full-day, alternate day kindergarten programs was considered satisfactory for this part of the survey. Two hundred thirty-eight surveys were sent to selected parents in the fifty-five school districts. One hundred fifty-one completed surveys (63%) were returned. Summarized parent survey results included:

I. Physical Needs of the Child

A. Rest

Was rest a problem for your child with the all-day alternate day schedule?

Actual Parent Responses:

114 my child had no problem.

3 my child needed a longer nap at school.

7 my child felt the nap was too long.

31 my child needed extra rest on the non-school days.

6 day was too long all year.

A. Rest (cont.)

10 day was too long in the fall.

7 my child fell asleep on the bus.

B. Meals

Did the noon lunch program create any difficulties for your child?

10 yes (please identify problem) 141 no

Basically menu complaints and lunch scheduling

II. Social Needs of the Child

Did your child make friends in the classroom?

147 my child seemed to feel a part of the kindergarten group.

16 my child had a few friends who lived nearby.

5 my child did not seem to make many friends.

III. Emotional Needs

How did your child adjust to the varied school attendance pattern?

104 my child adjusted easily.

46 my child wanted to go to school every day.

2 my child did not want to leave home.

38 my child adjusted better as the year progressed.

IV. Instructional Needs

Did your child experience difficult learning because of the scheduling?

122 my child seemed to have no trouble.

8 my child seemed to forget.

21 my child seemed to have difficulty in some kinds of learnings but not others.

Did you experience difficulties with the kindergarten schedule?

109 we had no problem.

0 we had trouble with babysitters.

11 we had difficulty remembering the schedule.

70 we liked the schedule.

14 we didn't like the schedule.

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V. Did any other children in your family attend half-day, daily kindergarten sessions in previous years?

78 yes 63 no

If answered yes, which program do you prefer?

22 half-day daily 53 full-day alternate day

2. Kindergarten Teacher Survey -

Survey questionnaires were sent to all sixty-five kindergarten teachers identified in the fifty-five school districts operating full-day, alternate day programs. Forty-four completed surveys were returned representing a 68% return.

Major survey results included:

A. Philosophy of kindergarten education -

75% Socializing experiences - play

93% Preacademic experiences - reading, math

(Some teachers marked both choices indicating a combination of the above experiences)

B. Kindergarten Equipment -

Kindergarten teachers indicated they have available basic equipment and materials considered necessary to operate a program.

It is significant to note that approximately 85% of the kindergarten teachers indicated they have available reading workbooks and number workbooks in their classroom. This would suggest considerable emphasis and activity in reading and math readiness at the kindergarten level. (It is anticipated this same readiness trend would be found in a survey of half-day daily kindergarten programs.)

C. Class Size -

Number of Students	Number of Sections
0-15	17 (23%)
16-20	15 (21%)
21-25	15 (21%)
26-30	20 (27%)
Over 30	6 (8%)

- Fifteen school districts indicated they operated a single section on alternate days. The number of eligible kindergarten students did not warrant the additional section.

C. Class Size (cont.)

- Five school districts split their enrollment of 30 or under into two small sections. Under the half-day daily program they would have been together in daily sessions.

- This class size data is similar to data that would be found in half-day daily programs in comparable size school districts in similar geographic regions with decreasing enrollment trends.

D. Educational activities - (#9)

Educational activities identified in full-day alternate kindergarten programs appeared to be similar to activities common in half-day daily programs.

It is significant to note that many teachers felt that longer rest periods were necessary for some children in full-day programs. Many kindergarten teachers indicated that it was necessary to change pace frequently with varied student activities especially in the afternoon in the full-day program.

E. How long are children in school? - (#10)

Teacher Response	Number of hours in school
3 (7%)	5 hours
1 (2%)	5½ hours
3 (7%)	6 hours
15 (34%)	6½ hours
22 (50%)	7 hours

It is significant to note that 84% of the kindergarten children in full-day alternate classes were in school 6½-7 hours. This would include the noon lunch period.

F. Advantages of full-day alternate day scheduling - (#11)

The major advantage of full-day alternate day kindergarten programs identified by kindergarten teachers was:

1. "Children can have more extended work periods."

Three other advantages rated lower by teachers were:

2. "Children can participate in more of the total school program."

3. "Children are better prepared for first grade work habits."

4. "Children can work at their own speed."

G. Disadvantages of full-day alternate day scheduling - (#12)

Two major disadvantages of full-day alternate day kindergarten programs identified by kindergarten teachers were:

1. "Children are too tired to benefit from instruction in the afternoons."

2. "Children have difficulty remembering lessons taught on the previous school day."

Two other disadvantages rated lower by teachers were:

3. "Teacher planning time is reduced."

4. "It is not possible to cover as much content as in the half-day program."

3. Elementary Principal Survey -

Survey questionnaires were sent to all fifty-five elementary principals identified in the fifty-five school districts operating full-day alternate day programs. Forty-eight completed questionnaires were returned representing a 87% return. Major survey results include:

A. The major reason for adopting a full-day alternate day kindergarten program was to save on noon transportation costs and to avoid related transportation problems.

B. The major advantage identified by elementary principals was a financial savings on noon transportation. The only other significant advantage identified was that the full-day, scheduling permitted more time for instruction.

C. The major disadvantage identified was that the school day was too long for kindergarten children, particularly in the fall. Other identified disadvantages included:

1. "Lack of program continuity".

2. "Difficult to keep children interested in the P.M."

D. Parent reaction to full-day alternate day programs -

1. 65% of the elementary principals indicated that parent reaction was generally favorable in their district.

2. 30% of the elementary principals indicated that there was divided opinion, favorable and unfavorable in their school district.

3. 5% of the elementary principals indicated that parent reaction was generally unfavorable in their district.

E. Kindergarten teacher reactions to full-day alternate day programs -

1. 35% of the elementary principals indicated that their kindergarten teachers were generally favorable to full-day alternate day programs.

2. 40% of the elementary principals indicated that their kindergarten teachers were generally unfavorable to full-day alternate day programs.

3. 15% of the elementary principals indicated that their kindergarten teachers had mixed reactions, favorable and unfavorable to full-day alternate day programs.

4. 10% of the elementary principals indicated that their kindergarten teachers indicated no definite reaction.

F. Financial savings to school districts from elimination of noon transportation routes -

Financial Savings	Number of Responses
$ 1,000- 2,999	1
$ 3,000- 4,999	3
$ 5,000- 6,999	7
$ 7,000- 8,999	1
$ 9,000-10,999	4
$11,000-12,999	1
$15,000-16,999	1
Over $20,000	1
	19

A large number of principals did not complete this survey question. It is assumed that the information was not available when the survey form was completed.

SECTION B - Kindergarten Group Test Scores Comparison, 1970-71 and 1971-72.

During the process of collecting the opinion survey results from elementary principals, five school districts indicated that they had done brief comparisons of kindergarten group test scores of kindergarten students who attended half-day daily sessions in 1970-71 with group test scores of kindergarten students who attended full-day, alternate day sessions in 1971-72.

Four of the five school districts used the Metropolitan Readiness Test; a group administered test used frequently by school districts administered toward the end of the kindergarten year. Readiness tests are generally considered to be predictors of student success in future tasks. There are a number of variables that can influence the test score of an individual student, some of these include:

1. Student's home environment
2. Student's native intelligence
3. Social economic status of parents (SES)
4. Teacher training and experience
5. Testing procedures (understanding of instructions, student attention span, etc.)

6. Student attendance patterns (rate of absences)

Recognizing that the above test variables can influence student test scores, the following comparative test scores are reported as an added dimension of this study.

METROPOLITAN READINESS TEST	SCHOOLS							
	#1		#2		#3		#4	
Date Administered	5-71	5-72	4-71	4-72	4-71	4-72	4-71	4-72
Number of Students Tested	28	25	94	94	117	116	60	64
Range of Scores	56-97	34-95	42-99	27-99	26-93	24-92	37-89	30-90
Number Below Average	0 (0%)	2 (8%)	12(13%)	22(23%)	5 (4%)	6 (5%)	1 (2%)	5 (8%)
Number At Average	4(14%)	2 (8%)	39(41%)	29(31%)	38(32%)	31(27%)	21(35%)	19(30%)
Number Above Average	24(86%)	21(84%)	43(46%)	43(46%)	74(64%)	79(68%)	38(63%)	40(62%)

Summary Statement:

The comparative test score differences between 1971 and 1972 scores, gains or losses at any level, cannot be solely attributed to the kindergarten attendance pattern implemented, half-day daily or full-day alternate. However, type of program scheduling may be a variable that influences a student's performance on the identified tests just as the other six identified variables may influence an individual's test performance.

The fifth school district administered the Stanford Early School Achievement Test. A comparison of test scores for 1970-71 and 1971-72 are reported below.

STANFORD EARLY SCHOOL ACHIEVEMENT TEST - School #5		
Date Administered	4-71	4-72
Number of Students Tested	83	64
Range of Scores	59-122	55-121
Number of Students Below Average	17 (20%)	14 (22%)
Number of Students Scoring Average	38 (46%)	34 (53%)
Number of Students Above Average	28 (34%)	16 (25%)

SECTION C - Individual Student Test Data

A Study of School Achievement in Academic and Social Areas for Kindergarten Children in All-Day. Alternate-Day Programs Compared with Kindergarten Children in Half-Day, Daily Programs

The 1970 Minnesota legislature amended M.S. 124.17 and the new definition of pupil units for kindergarten pupils allowed districts to run sessions which would be "equivalent" to half-day daily sessions. Different types of schedules were used in the state during the 1971-72 school year as districts experimented with the new equivalent sessions. There was no prior research into this scheduling before it was adopted by 55 school districts. A lack of research in this area made it difficult to provide consultant service to school districts that were making decisions about the all-day, alternate-day programs. Recognizing that there had been no research on the effect of an alternate-day program on the school performance of young children, the Minnesota State Department of Education saw a need to investigate this issue.

Statement of the problem. The question asked in this study is the following: Are there differences in the performances of kindergarten children who attend school under different attendance patterns but for equivalent amounts of time? The conceptual hypothesis was that it might be more difficult for children to profit from systematic instruction in a program that did not meet daily.

Method

Characteristics of the Population

Subjects. Data were collected on 96 kindergarten children during the last two weeks of the 1971-72 school year. Forty-eight of the children had been attending the full-day, alternate-day kindergartens and forty-eight of the children had been attending the half-day, daily kindergarten sessions.

The subjects ranged in the age from 5 years 9 months to 7 years 9 months in the all-day, alternate-day program and from 5 years 9 months to 6 years 9 months in the half-day, daily programs. The mean age for the half-day programs was 75 months and the mean age for the alternate-day program was also 75 months.

Classrooms. To minimize the effect of a particular teacher's style of teaching, the 96 children were taken from classrooms in five half-day and five alternate-day programs in six school districts. No fewer than eight and no more than ten children were taken from each of 10 classrooms. Table 1 shows the distribution of children by school districts and by classrooms.

Table 1

Number of Schools, Teachers and Children
Represented in the Two Types of Attendance Groups
and the Attendance Patterns

Schedule of Attendance	Schools	Teachers	No. of Children
All-Day, Alternate-Day			
M, T, alt. W.	School 1	Teacher 1	10
M, W, F, T, Th	School 2	Teacher 2	10
M, W, F, T, Th	School 2	Teacher 3	10
M, W, F, T, Th	School 3	Teacher 4	10
M, W, F, T, Th	School 3	Teacher 5	8
Half-Day, Daily			
A.M.	School 1	Teacher 1	10
Children from A.M. and P.M.	School 2	Teacher 2	10
Children from A.M. and P.M.	School 2	Teacher 3	10
P.M.	School 3	Teacher 4	10
P.M.	School 3	Teacher 5	8

The children in this study were taught by ten teachers who had college degrees, certification to teach kindergarten, and more than two years of classroom experience. Because the class size was considered to be an important variable, the children were chosen from classrooms that had enrollments that neared, reached or surpassed the state maximum of 30 children per class. The children in half-day programs came from classrooms where the average enrollment was 29.5 students; pupils in the all-day, alternate-day programs came from classrooms where the average enrollment was 27.5 children.

The six school districts were located in about a fifty-mile radius of the Twin Cities; the school districts were north of the metropolitan areas. These districts were small communities with rural populations and some had populations which commuted to the Twin Cities for work.

Attendance patterns of the subjects. The ten children in alternate-day programs in School 1 were attending class on consecutive days; the group tested went to school every Monday, every Tuesday and alternate Wednesdays while another group not tested attended every Thursday, every Friday and alternate Wednesdays. The children in all-day, alternate-day programs in Schools 2 and 3 were attending school on Mondays, Wednesdays, and Fridays of one week and on Tuesdays and Thursdays of the following week.

The children tested in the half-day, daily programs in School 1 were attending school daily in the mornings, the children tested in School 2 were from both morning and afternoon groups, and the children in School 3 were attending school daily in the afternoons.

Selection of the subjects. In eight of the classrooms, the 8-10 children were selected from a total population of about 30 children in the group. In the two half-day programs in School 2, however, the examiners worked with the two groups of children that each teacher had; that is, the 8-10 children were selected from a total population of about 60 that the teacher taught in two half-day sessions. The effect of drawing a small sample from a larger population is not known; this could have been avoided if the examiners had averted to the problem.

The children were selected in the following manner: the teacher provided a class list of the students in her room, the examiners assigned one set of numbers to all of the boys and another set of numbers to all of the girls. Eight to ten children were then drawn from these two groups by use of a table of random numbers; an equal number of boys and girls were selected.

Testing. Two examiners from the State Department of Education worked with the 96 children on an individual basis. The two examiners asked questions of a single child for about 25 minutes. A test of pre-academic skills was developed for this study and the Caldwell Preschool Inventory was used. Copies of these instruments are found in the Appendix.

One examiner asked the children to name the capital and small letters of the alphabet when they were presented in a particular but non-alphabetical order. The examiner also asked the children to identify 18 letter sounds and to name the numerals from 1 to 9 when they were presented in a mixed-up order. This examiner also administered one subtest of the Caldwell Preschool Inventory, the personal-social responsiveness area of the inventory. All of these tests took about 10 minutes. The second examiner asked the children questions from the Caldwell Preschool Inventory in the developmental areas of: associative vocabulary, numerical concept activation, and sensory concept activation. These tests took about 15 minutes to administer. The children were tested individually and one boy and one girl were taken from their classroom at a time. These children moved from one examiner to the next.

Results

Pre-academic Skill Measures

To analyze the data on capital letter names, lower-case letter names, letter sounds, knowledge of names of the numerals, and the scores from the Caldwell Preschool Inventory non-paired t tests for group data were run. Results of the analyses are presented in Tables 2-6.

There were no significant differences between the two groups of children on knowledge of lower-case letters of the alphabet. These data are shown in Table 2.

Table 2

Non-Paired t Test for Group Data
Knowledge of Lower-Case Letters of the Alphabet

Type of Attendance	N	Mean	SD	t
Half-day programs	48	20.94	5.62	1.61
Alternate-day programs	48	18.88	6.85	

There was a trend ($p < .10$) for children in half-day, daily programs to be able to name more capital letters of the alphabet. Table 3 presents these data. (NOTE: The p-values, such as $p < .10$, indicate probabilities. In this instance, there is a 90% likelihood that this result of kindergarten children in half-day programs naming more capital letters of the alphabet did not occur by some chance factor such as an unusual selection of brighter subjects in the half-day group. A value of $p < .05$ would allow us to say that we are 95% confident that this result is not due to chance factors.)

Table 3

Non-Paired t Test for Group Data
Knowledge of Capital Letters of the Alphabet

Type of Attendance	N	Mean	SD	t
Half-day programs	48	22.42	5.88	1.78*
Alternate-day programs	48	20.00	7.34	

*$p < .10$

There was a significant difference between the two groups of children on knowledge of letter sounds. Children in half-day programs were able to identify significantly more ($p < .05$) of the 18 letter sounds. Results are shown in Table 4.

Table 4

Non-Paired t Test for Group Data
Knowledge of Letter Sounds of 18 Letters

Type of Attendance	N	Mean	SD	t
Half-day programs	48	14.92	4.21	2.30**
Alternate-day programs	48	12.60	5.59	

**p < .05

There was a significant difference between the two groups on ability to name the numerals from 1 - 10. Children in half-day, daily programs were able to name significantly more of the numerals ($p < .05$) than children in alternate-day programs. These data are given in Table 5.

Table 5

Non-Paired t Test for Group Data
Knowledge of Numeral Names from 1-10

Type of Attendance	N	Mean	SD	t
Half-day programs	48	9.65	.63	2.06**
Alternate-day programs	48	9.16	1.52	

**p < .05

General Readiness Measures

There were no significant differences between the two groups of children on the total scores obtained on the Caldwell Preschool Inventory. Table 6 shows these results.

Table 6

Non-Paired t Test for Group Data
Caldwell Preschool Inventory

Type of Attendance	N	Mean	SD	t
Half-day programs	48	73.98	6.47	1.45
Alternate-day programs	48	71.75	8.50	

Subtests of the Caldwell Preschool Inventory were analyzed by an item analysis and comparisons were made between the percentage of items passed by each group of children on each of the subtests. These are shown in Table 7.

Table 7

Item Analysis for Caldwell Preschool Inventory Subtests

Subtest	Percentage of Items Passed	
	Half-Day	Alternate-Day
Personal-Social Responsiveness	88%	85%
Associate Vocabulary	69%	68%
Numerical Concept Activation	83%	82%
Sensory Concept Activation	95%	92%

Because the Caldwell Preschool Inventory was designed for children between the ages of 4½ to 6½, there were subjects in the study who were too old for the test norms. There were 37 children in each of the two groups whose ages were within the span of years for which the Caldwell Preschool Inventory in 1966 published percentile ranks. These percentile ranks for the two groups are shown in Table 8. There were 17 children in the half-day programs with percentile ranks above 75 and 14 children in all-day, alternate day programs with percentile ranks above 75. There were 15 children in half-day programs with percentile ranks between 50-75 and 13 children in the all-day, alternate day programs with percentile ranks within this range. There were four children in the half-day programs with percentile ranks below 50 and ten children in all-day, alternate day programs with percentile ranks below 50.

Table 8

Percentile Ranks for Children in Each of the Two Groups Whose Ages Fell Within the Test Norms

Percentile Ranks	Type of Program	
	Half-Day	Alternate-Day
95	7	4
90	3	6
85	2	2
80	5	2
75	4	5
70	3	3
65	4	2
60	2	2
55	2	1
50	1	0
45	0	1
40	3	7
35	0	0
30	1	1
25	0	0
20	0	0
15	0	1

Discussion

It was found in this study that children in half-day programs were more able to identify the sounds of the letters of the alphabet. This is a skill which is sometimes taught in conjunction with learning the letter names, but it usually is taught after the children can name the letters of the alphabet. It may be that children in half-day programs had more time for instruction in this area. Teachers in all-day, alternate-day programs feel that they cannot be given an equal amount of instruction in two class periods during an all-day kindergarten day; the children are too tired in the afternoons to accomplish as much in the pre-reading skills.

The finding that children in half-day programs are more able to name the numerals from 1 to 9 is a surprising finding when this is related to the survey findings that 85% of the kindergarten teachers used workbooks in number readiness. It may be that children in all-day, alternate-day programs are less able to recall the material that they have been presented. In Section A, both kindergarten teachers and elementary principals identified a lack of continuity in learning in the all-day, alternate-day programs as a disadvantage of this type of scheduling.

The finding of no differences between groups on the Caldwell Preschool Inventory suggests that it may not be as critical to learning non-academic tasks when pupils do not receive daily instruction. Although there were no significant differences between the two groups of children on this measure, it is evident from the data on percentile ranks and from the analysis of the items in subtests of the Caldwell Preschool Inventory that the half-day groups are doing slightly better than the all-day alternate-day groups on every measure.

In the tests of knowledge of upper and lower-case letters of the alphabet, there were no significant differences between the groups, but there was a trend for the half-day programs to do better in naming capital letters. In no case did the all-day, alternate-day program surpass the half-day program on any measures. There was a greater spread of scores for the children in all-day, alternate-day programs for each of the tests. This might suggest that it is the group at the lower end of the continum who may have greater difficulty in accommodating to the broken attendance pattern. This finding is similar to the greater range found in Metropolitan Reading Readiness Test scores for children in all-day, alternate-day programs which was discussed in Section B.

Summary and Conclusions

Two groups of kindergarten children attending school for equal amounts of time but under different attendance patterns were compared. One group had a daily school experience and the other group attended school on an intermittent basis but for a comparable length of time. The children were given individual tests which were selected to evaluate some pre-academic skills in reading and in mathematics; they were also given a series of questions from a preschool inventory that would evaluate broader socializing experiences from the kindergarten programs.

The two groups were similar on the measure of broad readiness experiences and they were dissimilar on two of the pre-academic skill measures. Children who attended school daily were better able to name the sounds of the letters of the alphabet and to name the numerals from one to nine. There were non-significant differences between the two groups which showed slightly better performance on all measures for the daily attendance group.

SECTION D - Summary

1. Parent Survey -

   A. 76% of the parents reported that their child did not have any rest problems with the full-day, alternate day schedule.

   B. 21% of the parents reported that their child needed extra rest on non-school days.

   C. 93% of the parents reported their child had no difficulties with the noon lunch program.

   D. 97% of the parents reported their child seemed to feel a part of the kindergarten group.

   E. 69% of the parents reported that their child adjusted easily to the varied school attendance pattern.

   F. 84% of the parents reported that their child did not experience difficult learning because of the scheduling.

   G. 72% of the parents reported they had no difficulty with the attendance schedule.

   H. 52% of the parents surveyed reported that they had other children in the family who had attended half-day daily programs. 72% of this group indicated they preferred the full-day alternate day program schedule.

2. Kindergarten Teacher Survey -

   A. 68% of the kindergarten programs include both socializing experiences and preacademic experiences.

   B. Kindergarten teachers reported they have available basic equipment and materials necessary to operate a program.

   C. Teacher-student ratios varied from 1-10 to 1-32 per session. 27% reported they had between 26-30 students per session.

   D. Many teachers indicated that longer rest periods were necessary for some children in the full-day sessions.

   E. 84% of the kindergarten students in full-day, alternate day classes were in school 6½-7 hours including the noon lunch period.

F. The major advantage of this scheduling reported by teachers was, "that students could have a longer work period."

G. The major disadvantages of this scheduling reported by teachers were:

- "Children are too tired to benefit from instruction in the afternoons"

- "Children have difficulty remembering lessons taught on the previous school day."

3. Elementary Principal Survey -

A. The major reason reported for adopting a full-day, alternate day schedule was to save on noon transportation costs and to avoid related transportation problems.

B. The major advantage reported was a financial savings on eliminated noon transportation.

C. The major disadvantage reported was that the school day was too long for kindergarten children, particularly in the fall.

D. 65% of the principals reported that parent reaction was generally favorable in their district.

E. 40% of the principals reported that kindergarten teacher reaction was generally unfavorable to full-day, alternate day scheduling. 35% reported generally favorable teacher reactions.

F. Financial savings to school districts from elimination of noon transportation varied from $2,000 to over $20,000. 37% of those responding to this question reported transportation savings from $5,000 - 6,999. 21% reported savings from $9,000 - 10,999.

4. Kindergarten Group Test Scores Comparison, 1970-71 and 1971-72.

The differences observed in group test scores for five school districts comparing 1970-71 scores (half-day daily schedule) with 1971-72 (full-day alternate day schedule) were generally small with a few exceptions. The 1970-71 groups scores (half-day daily schedule) were slightly higher in most categories than 1971-72 group scores (full-day alternate day schedule). These group test differences cannot be solely attributed to the type of kindergarten attendance pattern implemented. However, type of attendance pattern scheduling may be a variable that influences student performance of tests of this type.

5. Individual Student Test Data

The State Department of Education tested a group of 48 kindergarten children from half-day, daily programs taught by 5 teachers in three school districts and another group of 48 kindergarten children from all-day, alternate day programs taught by 5 teachers in three school districts. Scores of the two groups of children on tests of pre-academic skills in the reading and mathematics areas and on the Caldwell Preschool Inventory, an educational test with items related to success in school, were compared.

Children in half-day daily programs had significantly higher scores on tests of ability to name numerals from 1 - 10 and on knowledge of the sounds of the letters of the alphabet. There were no significant differences between groups on the Caldwell Preschool Inventory. On all measures, however, the children in all-day, alternate day programs had lower scores and showed a greater variability within the group.

APPENDIX

State of Minnesota

Department of Education
Capitol Square, 550 Cedar Street
St. Paul, Minnesota 55101

May 12, 1972

Dear Parent:

The Minnesota Department of Education is conducting a study on full-day alternate-day kindergarten programs in Minnesota.

Parent observations are an important part of this study in our opinion. Your cooperation is solicited to make this kindergarten study complete and meaningful. We feel kindergarten parents can make valuable observations about their kindergarten child's activities in full-day, alternate-day programs.

Please complete the attached survey form at your earliest convenience and return it to us in the self-addressed stamped envelope. Since you are part of a random sample of parents for this study it is very important that we receive your completed questionnaire. Feel free to add additional comments where you deem appropriate.

Thank you for your cooperation.

Sincerely yours,

Gerald L. Kleve

Gerald L. Kleve, Ed.D.
Director, Elementary Education

GLK:ema

Kindergarten Questionnaire - Parent

School District_____

Please check the items that fit your experience. If none of the items are appropriate, write in your comment.

I. Physical Needs of the Child

A. Rest

Was rest a problem for your child with the all-day alternate-day schedule?

_____my child had no problem.

_____my child needed a longer nap at school.

_____my child felt the nap was too long.

_____my child needed extra rest on the non-school days.

_____day was too long all year.

_____day was too long in the fall.

_____my child fell asleep on the bus.

_____other _____

B. Meals

Did the noon lunch program create any difficulties for your child?

_____yes (please identify problem) _____no

_____

_____

II. Social Needs of the Child

Did your child make friends in the classroom?

_____my child seemed to feel a part of the kindergarten group.

_____my child had a few friends who lived nearby.

_____my child did not seem to make many friends.

III. Emotional Needs

How did your child adjust to the varied school attendance pattern?

_____my child adjusted easily.

_____my child wanted to go to school every day.

_____my child did not want to leave home.

_____my child adjusted better as the year progressed.

_____other _____

IV. Instructional Needs

Did your child experience difficult learning because of the scheduling?

_____my child seemed to have no trouble.

_____my child seemed to forget.

_____my child seemed to have difficulty in some kinds of learnings but not others.

_____other _____

Did you experience difficulties with the kindergarten schedule?

_____we had no problem.

_____we had trouble with babysitters.

_____we had difficulty remembering the schedule.

_____we liked the schedule.

_____we didn't like the schedule.

_____other _____

V. Did any other children in your family attend half-day, daily kindergarten sessions in previous years?

_____yes _____no

If answered yes, which program do you prefer?

_____half-day daily _____full-day alternate-day

(Please return at your early convenience in the self-addressed stamped envelope).

State of Minnesota

Department of Education
Capitol Square, 550 Cedar Street
St. Paul, Minnesota 55101

May 12, 1972

Dear Kindergarten Teacher:

The Minnesota Department of Education is conducting a study on full-day, alternate-day kindergarten programs in Minnesota.

We feel kindergarten teachers are in a critical position to provide meaningful observations about full-day, alternate-day kindergarten programs. Your cooperation is solicited to make this study complete and meaningful.

Please complete the attached survey forms at your earliest convenience and return to us in the self-addressed stamped envelope. Feel free to add additional comments where you deem appropriate.

Thank you for your cooperation.

Sincerely yours,

Gerald L. Kleve

Gerald L. Kleve, Ed.D.
Director, Elementary Education

GK:ema

Kindergarten Questionnaire - Teacher

1. Name _____

2. School District _____

3. Position: _____ Half-Time _____ Full-Time _____

4. Number of Yrs. Teaching Experience _____

5. College Training at _____ _____

6. Philosophy of Kindergarten Education to provide:

   _____Socializing experiences - play

   _____Preacademic experiences - reading, math

7. Check the type of basic equipment in your kindergarten:

_____sand table	_____easel	_____tapes & audio-visual equip.
_____workbench	_____pencils	_____games for reading
_____blocks	_____reading workbooks	_____puzzles
_____doll house furn.	_____writing paper	_____games for fun
_____large trucks	_____number workbooks	

8. Number of children in class

   Group 1 _____boys _____girls Group 2 _____boys _____girls

9. Check the type of activities you have:

	Times Per Week		Times Per Week
Sharing Time_____	_____	Math Readiness_____	_____
Music_____	_____	Social Studies_____	_____
Story Hour_____	_____	Science_____	_____
Language Dev._____	_____	Rest Period_____	_____
Art_____	_____	Snack_____	_____
Rhythms_____	_____	Lunch_____	_____
Reading Readiness_____	_____		

10. How long are the children in school?

_____Hours per day _____Days per week

11. What are the advantages to this type of schedule?

Number the following items from 1 to 6. Use 1 to indicate the greatest advantage in your opinion.

a. _____Children can work at their own speed.

b. _____Children can participate in more of the total school program.

c. _____Children learn good eating habits.

d. _____Children are better prepared for first grade work habits.

e. _____Children can rest on their free days.

f. _____Children can have more extended work periods.

12. What are the disadvantages to this type of schedule?

Number the following items from 1 to 6. Use 1 to indicate the greatest disadvantage in your opinion.

a. _____Children do not seem to form as cohesive a group.

b. _____Children have difficulty remembering lessons taught on previous school day.

c. _____Children are too tired to benefit from instruction in the afternoons.

d. _____Kindergarten children have difficulty handling the lunch hour.

e. _____It is not possible to cover as much content as in the half-day program.

f. _____Teacher planning time is reduced.

13. Please include other comments that you feel are appropriate.

State of Minnesota

Department of Education
Capitol Square, 550 Cedar Street
St. Paul, Minnesota 55101

May 12, 1972

Dear Elementary Principal:

The Minnesota Department of Education is conducting a study on full-day, alternate-day kindergarten programs in Minnesota.

We feel your observations as Elementary Principal are an important part of this study. You have the opportunity to observe student participation in this program as well as teacher and parent reactions to this type of kindergarten scheduling.

Please complete the attached survey form at your earliest convenience and return it to us in the self-addressed stamped envelope. Feel free to add additional comments where you deem appropriate.

Thank you for your cooperation.

Sincerely yours,

Gerald L. Kleve

Gerald L. Kleve, Ed.D.
Director, Elementary Education

GLK:ema

KINDERGARTEN QUESTIONNAIRE - ELEMENTARY PRINCIPAL

Name_____ School District_____

1. What were the major reasons for adopting a full-day, alternate-day kindergarten program for 1971-72 in your school district?

2. What do you feel were the major advantages of this type of program for the 1971-72 school year?

3. What do you feel were the major disadvantages with this type of program for the 1971-72 school year?

4. What type of parent reaction have you observed relative to the full-day, alternate-day kindergarten program?

5. What type of kindergarten teacher reaction have you observed relative to the alternate-day kindergarten program?

6. What type of financial savings have resulted from operating a full-day, alternate-day kindergarten program?

7. What type of evaluation of this program have you done in your district, or plan to do at the end of the school year?

8. Other appropriate comments: _____

_____

_____

NAME_____ SEX_____

AGE_____

1. Alphabet - Letter Names (upper & lower case)

(Upper Case)

____T	____X	____H	____D
____R	____F	____G	____Q
____L	____O	____E	____J
____C	____B	____K	____V
____P	____N	____Z	____W
____S	____A	____U	
____I	____M	____Y	

(Lower Case)

____m	____h	____v	____b
____t	____k	____f	____d
____s	____p	____n	____l
____r	____c	____a	____g
____u	____z	____j	____q
____x	____i	____w	
____o	____e	____y	

2. Letter Sounds

____M	____W	____J
____S	____N	____K
____C	____Y	____G
____T	____P	____L
____B	____F	____R
____Z	____H	____D

3. Names numerals

____1	____9	____7	____8	____10
____5	____4	____2	____3	____6

CALDWELL PRESCHOOL INVENTORY

Personal-Social Responsiveness #1 - #26

1. What is your first name?
2. What is your last name?
3. How old are you?
4. When is your birthday?
5. Show me your eye. (Credit a prolonged blink, or widening of the eye.)
6. Show me your neck. (Credit lifting of chin and forward thrust of neck.)
7. Show me your shoulder. (Credit turning of one shoulder toward E.)
8. Show me your heel. (Credit twisting of foot so that heel moves toward E.)
9. What's this? (ear)
10. What's this? (finger)
11. What's this? (knee)
12. What's this? (elbow)
13. Raise your hand.
14. Wiggle
15. Say "Hello" very loudly. (Do not give item away by changing volume.)
16. Say "Hello" very softly. (Do not change volume.)
17. Now stand up and face the door.
18. Now jump.
19. Put the red car on the black box.
20. Put the blue car under the green box.
21. Put the yellow car on the little box.
22. Put one car in the middle sized box.
23. Put all the cars on one side of the table and all the boxes on the other side of the table.

24. Put three cars in the big box.

25. Put two cars behind the box in the middle

26. Give everything to me.

Associative Vocabulary #27 - #47

27. Do you know what we call this first car, the one that pulls the train? (Point to the engine.)

28. What do we call the last car on a freight train?

29. All right now, which way does a saw go?

30. Which way does an elevator go?

31. Which way does a ferris wheel go?

32. Which way does a phonograph record go?

33. Which way does a waterfall go?

34. When do we eat breakfast?

35. What is the time of the year when it is the hottest?

36. What is the time of year when it is the coldest?

37. What time of year is it now?

38. If you wanted to find a lion where would you look?

39. If you wanted to buy some gas where would you go?

40. If you were sick who would you go to?

41. If you wanted to find a boat, where would you look?

42. If you wanted to read something, what would you do?

43. What does a dentist do?

44. What does a policeman do?

45. What does a teacher do?

46. What does a father do?

47. What does a mother do?

Numerical Concept Activation #48 - #66

48. How many eyes do you have?

49. How many noses do you have?

50. How many hands do you have?

51. How many toes do you have?

52. How many wheels does a car have?

53. How many wheels does a bicycle have?

54. How many wheels does a tricycle have?

55. How many wheels does a wheelbarrow have?

56. How many wheels does a rowboat have?

57. Let's hear you count out loud. If no response, start child by saying "One - - -" Give credit if child counts to five. If child stops before 5, say, "Can you count any more?"

58. Hold up a blank piece of paper. Say, "How many corners does this sheet of paper have?"

59. 2 & 8 Which has more checkers in it?

60. 6 & 6 Which has more checkers in it?

61. 2 & 8 Which has fewer checkers in it?

62. Give me the middle one.

63. Give me the first one.

64. Give me the last one.

65. Give me the second one.

66. Give me the next to the last one.

Sensory Concept Activation #67 - #85

67. Draw a line. (Separate sheet)

68. Draw a circle. (Separate sheet)

69. Draw a square. (Separate sheet)

70. Draw a triangle. (Separate sheet)

71. Which one is most like a wheel?

72. Which one is most like a tent?

73. Which one is most like a stick?

74. Which is bigger, a ball or a bicycle?

75. Which is bigger, a tree or a flower?

76. Which is slower, a car or a bicycle?

77. Which is heavier, a brick or a shoe?

78. Which is heavier, a feather or a fork?

79. What color is this? (red)

80. What color is this? (black)

81. Which one of these is the color of the sky?

82. Which one is the color of night?

83. Color the circle yellow.

84. Color the square purple.

85. Color the triangle orange.